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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,816	09/17/2003	Kinya Ozawa '	116717	4045
25944	7590	11/22/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			DUONG, TAI V	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 11/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,816

Applicant(s)

OZAWA, KINYA

Examiner

Tai Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claims 5 and 6 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 5 and 6 replace a part or element set forth in claim 1 from which they depend. Independent claim 1 recites "the first and second polarizers each including *a linear polarizer and a quarter-wavelength retardation plate*" while claims 5 and 6 recite "the first and second polarizers being formed of *cholesteric liquid crystal*".

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 4 are confusing because the features "the first and second polarizers including linear polarizers and quarter-wavelength retardation plates" and "four times an amount of phase shift of the quarter-wavelength retardation plate is almost equal to the peak wavelength of the incident light" are already recited in claim 1. Are the first and second polarizers of claims 3 and 4 referred to the same polarizers of claim 1 or to different polarizers? In the below rejection over the prior art, it is assumed that the first and second polarizers of claims 3 and 4 are the *same* polarizers of claim 1

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-040428 (JP'428) cited by Applicant in view of Kataoka et al.

The JP'428 discloses in Fig. 3 a liquid crystal device (LCD) comprising a LC layer 10 between first and second circular polarizers (20, 50) wherein the first and second circular polarizers include linear polarizers (21, 51) and quarter-wavelength retardation plates (22, 52). Further, the JP'428 discloses that other types of the ECB mode can be used such as the perpendicular aligned liquid crystal SH (paragraphs 0041-0047 and 0076 of the English translation). The only differences between the LCD of JP'428 and that of the instant claims are each of the quarter-wavelength retardation plates having a phase shift amount, a product of four times an amount of phase shift of the quarter-wavelength retardation plate being substantially the same as the peak wavelength of the incident light, and the birefringence characteristics of the first and second polarizers (the quarter-wavelength retardation plates) being set based on the peak wavelengths of red light, green light, or blue light. However, Kataoka et al disclose that it was known to employ quarter-wavelength retardation plates having a phase shift amount ($\Delta n \cdot d$), a product of four times an amount of phase shift of the quarter-wavelength retardation plate being substantially the same as the peak wavelength of the incident light, and the birefringence characteristics of the quarter-wavelength retardation plates being set

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based on the peak wavelengths of red light, green light, or blue light (col. 6, lines 13-56). Thus, it would have obvious to a person of ordinary skill in the art in view of Kataoka et al to employ quarter-wavelength retardation plates having a phase shift amount, a product of four times an amount of phase shift of the quarter-wavelength retardation plate being substantially the same as the peak wavelength of the incident light, and the birefringence characteristics of the quarter-wavelength retardation plates being set based on the peak wavelengths of red light, green light, or blue light in the LCD of the JP'428 for obtaining satisfactory contrast over the entire wavelength region (Kataoka, col. 6, lines 54-56).

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-040428 and Kataoka et al as applied to claim 1 above, and further in view of Adachi et al of record and Miyatake et al.

For examination purpose, it is *assumed* that claims 5 and 6 are in *proper* dependent form. Claims 5 and 6 recite the first and second polarizers being formed of cholesteric liquid crystal. Adachi et al disclose that it was known to employ circular polarizers being formed of cholesteric liquid crystal (CLC) and having a birefringence characteristic that is set based on a peak wavelength of incident light (paragraphs 0067-0074 and 0092). Miyatake et al disclose that it was known in the art to employ a combination of a linear polarizer and a quarter-wavelength retardation plate, or a cholesteric liquid crystal as a circular polarizer (page 2, paragraph 0013). Thus, it would have obvious to a person of ordinary skill in the art in view of Adachi et al and Miyatake et al to employ circular polarizers being formed of CLC (as the art-recognized functional

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circular polarizer consisting of a linear polarizer and a quarter-wavelength retardation plate) and having a birefringence characteristic that is set based on a peak wavelength of incident light in the device cited in the above rejection of claim 1 for obtaining satisfactory contrast over the entire wavelength region.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-040428 and Kataoka et al as applied to claim 1 above, and further in view of Yano.

Claim 8 additionally recites the use of the LCD of claim 1 as light valves in a multicolor projector. Yano disclose in Fig. 48 that it was known to employ LCD as light valves in a multicolor projector (paragraphs 0257-0261). Thus, it would have obvious to a person of ordinary skill in the art in view of Yano to employ the LCD of claim 1 as the light valves in a multicolor projector for obtaining a multicolor projector with good color purity and good contrast.

Applicant's arguments with respect to amended claim 1 have been considered but are moot in view of the new ground(s) of rejection.

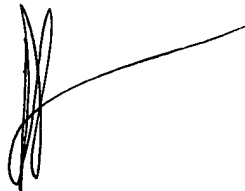
Any inquiry concerning this communication should be directed to Tai Duong at telephone number (571) 272-2291.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

TD

TVD

11/04



KENNETH PARKER
PRIMARY EXAMINER